

## Description

The X7I series is outdoor constant current LED driver that operates with high PF value and full power input voltage range 140~305Vac, and output current is adjustable with build-in potentiometer. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enable the driver to operate with high reliability, and it provides extreme durability with an IP67 rating and extends product lifetime. Overall protection is provided against lightning surge, output over voltage, short circuit and over temperature to ensure low failure rate.



IS15885(Part2/Sec13)


 R-41246603  
[www.bis.gov.in](http://www.bis.gov.in)

## Product Features

- Universal input voltage: 108~305Vac
- Full power work range: 140~305Vac;
- Isolate constant power design;
- Adjustable output current with potentiometer
- 440Vac Protection: >48hours
- High surge protection: 6KV line-line, 10KV line-earth;
- Protections: SCP / OVP / OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty;

## Application

Road and street lighting,  
 Tunnel lighting  
 Area and flood lighting  
 High-bay lighting

## Models

| Model Number | Input Voltage Range (Vac) | Max Output Power (W) | Output Voltage Range (Vdc) | Full Power Output Current Range (A) | Default Current(A) | Eff. (Typ.) | PF(Typ.) | THD(Typ.) @Full load |
|--------------|---------------------------|----------------------|----------------------------|-------------------------------------|--------------------|-------------|----------|----------------------|
| X7I-105V150  | 140-305                   | 105                  | 75~150                     | 0.70~1.05                           | 0.70A              | > 90%       | 0.97     | 5%-10%               |

### NOTES:

- [1]. Non-dimming control, adjustable output current with potentiometer
- [2]. All specifications are measured at 25°C ambient temperature, input voltage 240Vac, and the typical value tested at full load, if no specific note.

## Input Specifications

| Parameter                       | Min    | Typ.       | Max    | Notes                                         |
|---------------------------------|--------|------------|--------|-----------------------------------------------|
| Input Voltage Range             | 108Vac | 220~240Vac | 305Vac |                                               |
| Full Power Work Range           | 140Vac | 220~240Vac | 305Vac | Refer to Output Power vs. Input Voltage curve |
| Input Frequency AC              | 47Hz   | 50/60Hz    | 63Hz   |                                               |
| Max Input Current               | -      | -          | 0.9A   | 140Vac & 100% load                            |
| Max Input Power                 | -      | -          | 120W   | 240Vac & 100% load                            |
| Leakage Current                 | -      | -          | 0.70mA | IEC 60598-1;240Vac/60Hz                       |
| Inrush Current                  | -      | -          | 75A    | 240Vac, 100% load                             |
| Power Factor (PF)               | 0.95   | 0.97       | -      | 220-240Vac, 50-60Hz, 70%-100% load            |
| Total Harmonic Distortion (THD) | -      | 5%         | 10%    | 220-240Vac, 50-60Hz, 70%-100% load            |
| MCB(B16)                        | -      | 6          | -      | 240Vac, 100%load                              |

## Output Specifications

| Parameter                           | Min   | Typ | Max    | Notes                                                                                       |
|-------------------------------------|-------|-----|--------|---------------------------------------------------------------------------------------------|
| Output Voltage Range                | 75Vdc | -   | 150Vdc | The full power cannot be lower than 100Vdc                                                  |
| Open Circuit Protection             | -     | -   | 190Vdc | Present, LED Driver tolerates sustained open circuit output condition without damage.       |
| Output Current Range                | 0.65A | -   | 1.05A  | Adjustable Output Current with potentiometer, full power performance range 0.7A-1.05A.      |
| Current Accuracy                    | -5%   | -   | +5%    |                                                                                             |
| Total Output Current Ripple (pk-pk) | -     | 5%  | 10%    | 20MHz BW full load & LED load, the LED load ripple is slightly different for different leds |
| Startup Overshoot Current           | -     | 5%  | 10%    | 220-240Vac full load condition, LED load                                                    |
| Line Regulation                     | -2%   | -   | +2%    | 25°C±10°C ambient temperature, input changes from 200Vac to 305Vac                          |
| Load Regulation                     | -5%   | -   | +5%    | Load varies from 60% to 100% with 240Vac input at 25°C±10°C ambient temperature             |
| Turn-on Delay Time                  | -     | -   | 1.0s   | 240Vac, 100% load                                                                           |

## General Specifications

| parameter                           | Min                                            | Typ        | Max    | Notes                                                                                         |
|-------------------------------------|------------------------------------------------|------------|--------|-----------------------------------------------------------------------------------------------|
| Efficiency@240Vac<br>1.05A<br>0.70A | 89%<br>89%                                     | 91%<br>91% | -      | 100% load, 25℃ ambient temperature                                                            |
| Mean Time Between Failure (MTBF)    | -                                              | 200Khours  | -      | 25℃±10℃ ambient temperature, 240Vac, 80% load condition (MIL-HDBK-217/SR-332)                 |
| Lifetime                            | -                                              | 50Khours   | -      | 240Vac & 100% load, Tc 75℃, refer to Lifetime vs. Case Temperature curve                      |
| Operating Temperature Ta            | -40℃                                           | -          | +55℃   | Output Power vs. Ambient Temperature curve                                                    |
| Operating Tc for Safety Tc_s        | -40℃                                           | -          | +90℃   |                                                                                               |
| Operating Tc for Warranty Tc_w      | -40℃                                           | -          | +75℃   | 5-year warranty case temperature, humidity: 10% to 95% RH                                     |
| Storage Temperature Ta              | -40℃                                           | -          | +85℃   | Humidity: 5% to 100% RH                                                                       |
| Altitude                            | -60m                                           | -          | 4000m  |                                                                                               |
| Input Under voltage Protection      | 65Vac                                          | 75Vac      | 85Vac  | Turn off the output when the input voltage falls below protection voltage.                    |
| Input Over voltage Protection       | 325Vac                                         | 335Vac     | 350Vac | Turn off the output when the input voltage exceeds protection voltage.                        |
| Recovery Voltage                    | 300Vac                                         | 310Vac     | 315Vac | Auto Recovery, the driver will restart when the input voltage falls below recovery voltage    |
| Max. of input over Voltage          | -                                              | -          | 440Vac | The driver can survive for 48 hours with input over-voltage of 440Vac                         |
| Over Temperature Protection Tc      | -                                              | 90℃        | -      | Decreases output current, returning to normal after over temperature is removed.              |
| Short Circuit Protection            | -                                              | -          | -      | Constant current mode. The output shall return to normal when the fault condition is removed. |
| Dimensions (L*W*H)                  | 134*68*35mm                                    |            |        |                                                                                               |
| Net Weight                          | 600±50g/PCS                                    |            |        |                                                                                               |
| Package (L*W*H)                     | 466*282*172mm; 16PCS/Ctn, Gross Weight: 11.5Kg |            |        |                                                                                               |

## Safety Specification

|                                     |      |         |      |                                                     |
|-------------------------------------|------|---------|------|-----------------------------------------------------|
| Dielectric Strength (Input-Output)  | -    | 3750Vac | -    | 60s, Current not exceeding 5mA                      |
| Dielectric Strength (Input-Ground)  | -    | 1600Vac | -    | 60s, Current not exceeding 5mA                      |
| Dielectric Strength (Output-Ground) | -    | 1600Vac | -    | 60s, Current not exceeding 5mA                      |
| Grounding Resistance                | -    | -       | 0.1Ω | 25℃±10℃ Ambient Temperature, pass 25A Current, 60s. |
| Insulation Resistance               | 10MΩ | -       | -    | Input-Output, Input-PE, Output-PE, 500Vdc/60s/25℃   |

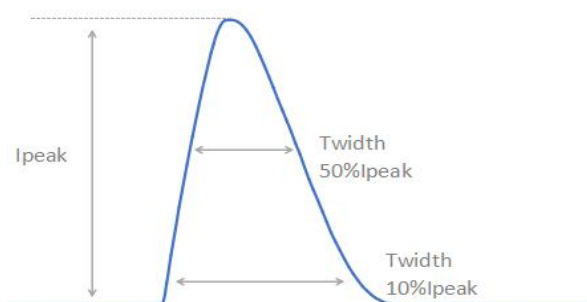
## Safety Compliance

| Safety Category | Standards                        | Approved | Notes |
|-----------------|----------------------------------|----------|-------|
| CCC             | GB19510.1, GB19510.14            |          |       |
| CE              | EN61347-1, EN61347-2-13, EN62493 |          |       |
| ENEC            | EN61347-1, EN61347-2-13, EN62384 |          |       |
| CB              | IEC61347-1, IEC61347-2-13        |          |       |
| BIS             | IS 15885(PART 2/SEC 13)          | √        |       |
| UL              | UL 8750                          |          |       |
| CUL             | CSA C22.2 No.250.13              |          |       |

## RoHS

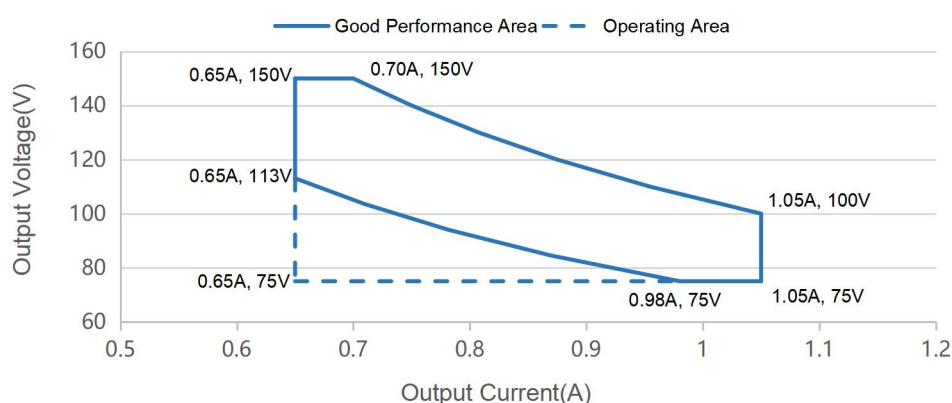
Our products comply with RoHS Directive (EU) 2015/863 amending 2011/65/EU.

## Inrush Current

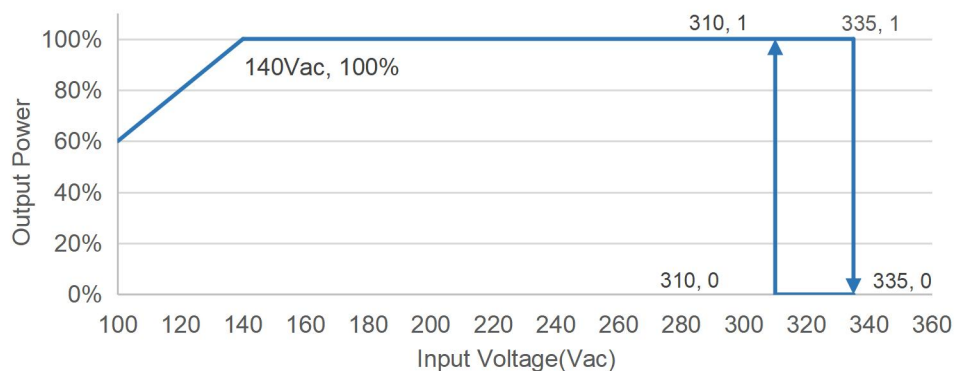


| Vin    | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|--------|-------|------------------|------------------|
| 240Vac | 51.2A | 390us            | 118us            |

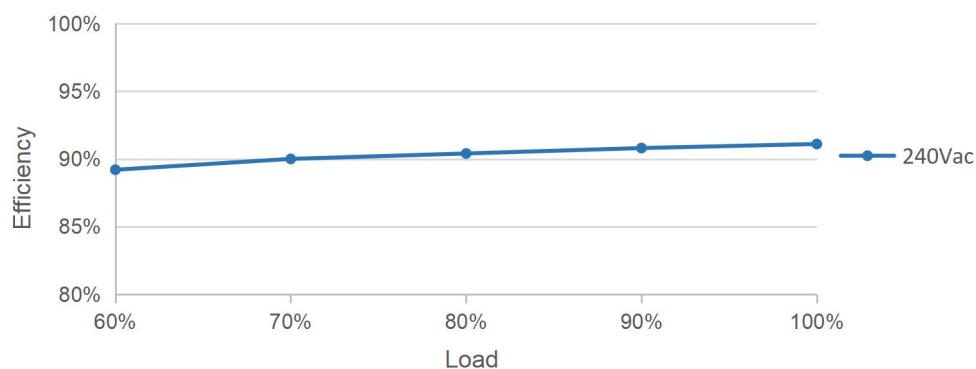
## Output Voltage vs. Output Current

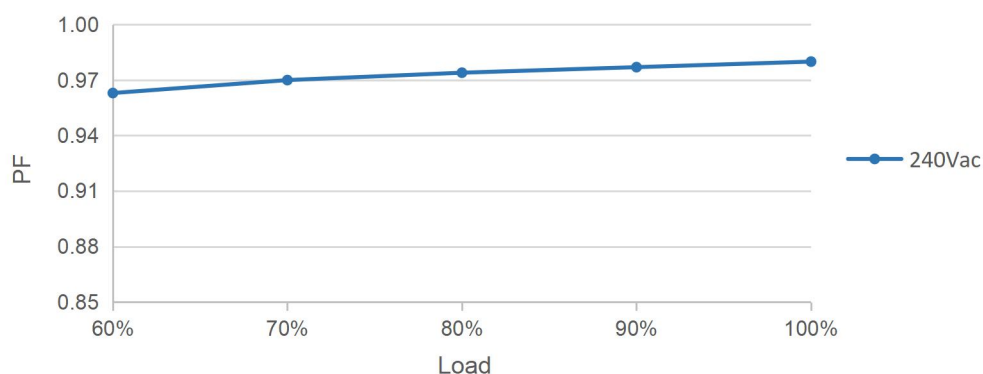
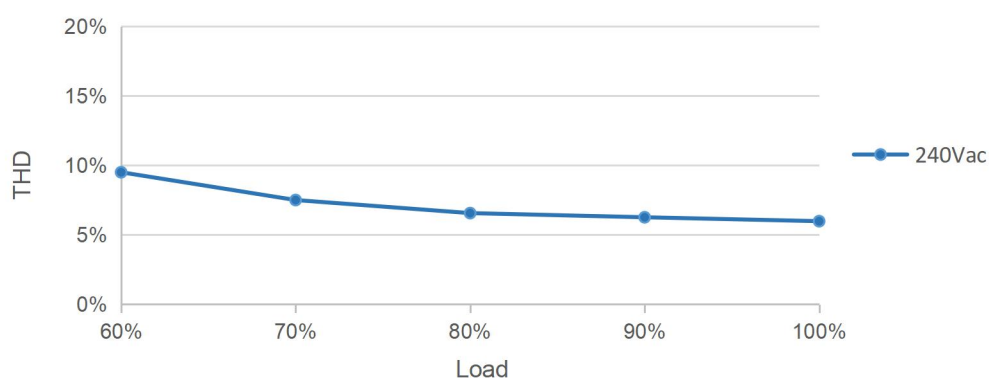
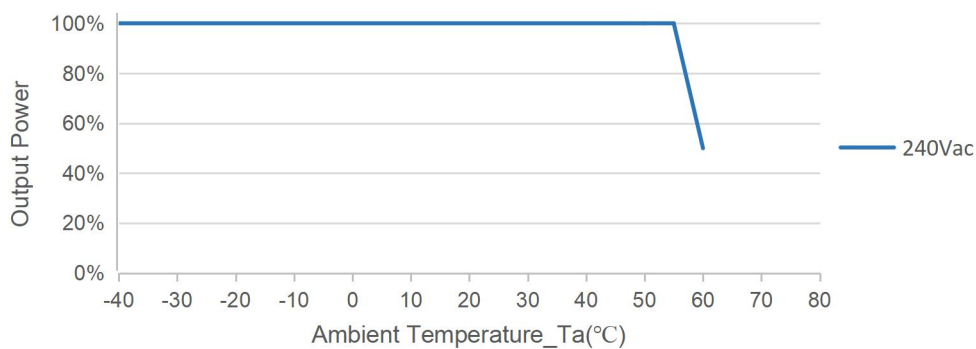
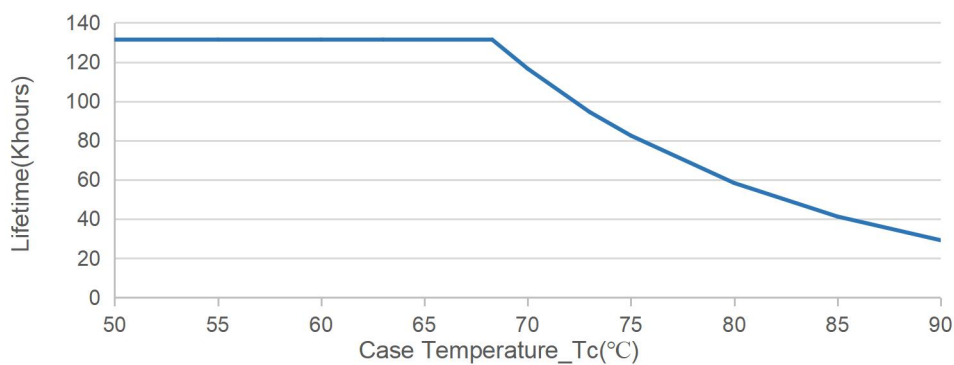


## Output Power vs. Input Voltage

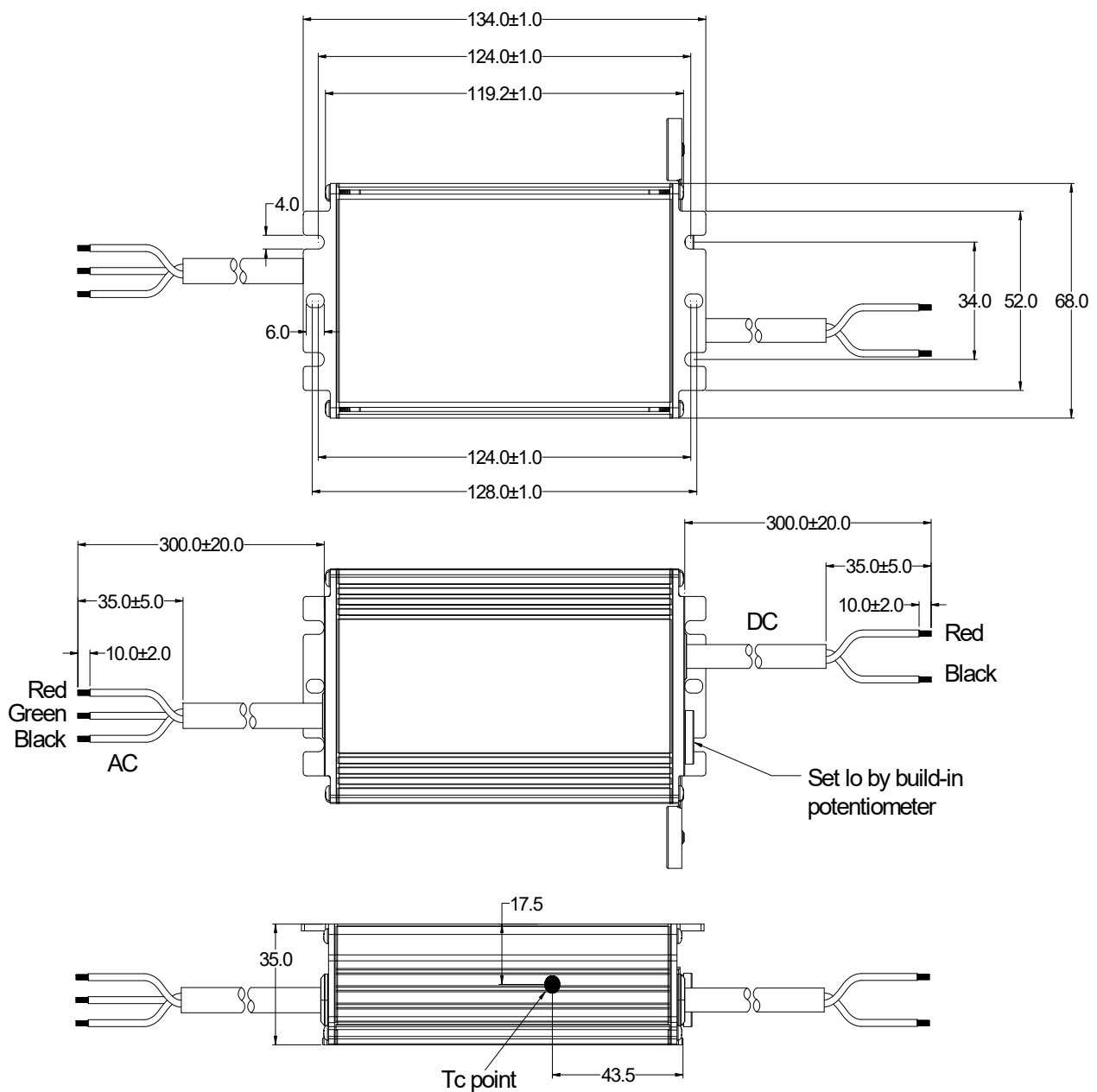


## Efficiency vs. Load



**PF vs. Load****THD vs. Load****Output Power vs. Ambient Temperature****Lifetime vs. Case Temperature**

## Mechanical Outline



## Connections

|             |                                      |
|-------------|--------------------------------------|
| Input wire  | BIS 3*1.0 mm <sup>2</sup> L=300±20mm |
| Output wire | BIS 2*1.0 mm <sup>2</sup> L=300±20mm |

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## Label

| INPUT                                  |        | <b>MOSO<sup>®</sup></b> X7I-105V150<br>LED DRIVER                                                                                    |  | IS15885(Part2/Sec13)                                                                                                |                                                                                                                                                                                             | OUTPUT |                                                                                     |
|----------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|
| L RED                                  | INPUT  | 220-240V~ 50/60Hz PF:0.95<br>Max. 0.8A                                                                                               |  | <br>R-41246603<br>www.bis.gov.in | <br>IP 67<br><br>RoHS | RED    | Vo +                                                                                |
| G GREEN                                | OUTPUT | 75-150V~ 0.65-1.05A<br>Max: 190V~ Max. Power: 105W                                                                                   |  |                                                                                                                     |                                                                                                                                                                                             | BLACK  | Vo -                                                                                |
| N BLACK                                | TEMP   | t <sub>c</sub> : 90°C t <sub>a</sub> : 55°C                                                                                          |  |                                                                                                                     |                                                                                                                                                                                             | Io ADJ |  |
| Made in Vietnam<br>For LED module only |        | MOSO VIETNAM ELECTRONICS COMPANY LIMITED<br>Lot D4-Chau Son Industrial Zone, Chau Son ward,<br>Phu Ly city, Ha Nam province, Vietnam |  |                                                                                                                     |                                                                                                                                                                                             |        |                                                                                     |

Version

|     |               |            |
|-----|---------------|------------|
| A.0 | First release | 2022-11-08 |
| A.1 | Revised       | 2023-3-29  |
| B.2 | ERL202307020  | 2023-07-07 |
|     |               |            |
|     |               |            |
|     |               |            |
|     |               |            |

## Specification for Approval

Product Name: 105W LED Driver

Product Model: X7I-105V150

Rev: B.2

Address: XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

Tel: 0755-27657000

FAX: 755-27657908

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Web Site: <http://www.mosopower.com>

| Prepared By | Checked By | Approved By |
|-------------|------------|-------------|
|             |            |             |

## Specification for Approval

Product Name: 105W LED Driver

Product Model: X7I-105V150

Rev: B.2

| CUSTOMER AUTHORIZED SIGNATURE                                                   |            |             |
|---------------------------------------------------------------------------------|------------|-------------|
| Tested By                                                                       | Checked By | Approved By |
|                                                                                 |            |             |
| (Company seal)Return one copy to MOSO with approved signature and company seal. |            |             |

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

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Web Site: <http://www.mosopower.com>

| Prepared By | Checked By | Approved By |
|-------------|------------|-------------|
|             |            |             |